

# \*3a Examiner's Reference

## Claims

1. An intake system for the combustion air of a motor of a hand held implement, comprising:

5 an air filter  $\textcircled{3}$  having a dirt chamber  $\textcircled{5}$  and a clean chamber  $\textcircled{6}$  that is separated from the dirt chamber by a filter medium  $\textcircled{27}$ , wherein said clean chamber  $\textcircled{6}$  is fluidically connected with a carburetor  $\textcircled{7}$  of said motor;

10 a centrifugal separator  $\textcircled{4}$  that splits an incoming air stream into core flows  $\textcircled{9}$  having a low particle density, and peripheral flows  $\textcircled{10}$  having a high particle density, wherein one of said flows is conveyed to said dirt chamber  $\textcircled{5}$  of said air filter  $\textcircled{3}$ , and the other of said flows is discharged, wherein said centrifugal separator  $\textcircled{4}$  includes at least two cyclones  $\textcircled{11}$ , and wherein discharge flows from said cyclones are respectively combined in pairs; and

15 a common suction tube  $\textcircled{21}$ , wherein said paired discharge flows open out into said suction tube.

2. An intake system according to claim 1, which includes a dirt collector  $\textcircled{16}$  in which is formed a dirt collection chamber  $\textcircled{17}$  into which said discharge flows open out.

20 3. An intake system according to claim 2, wherein passages 59-64 are formed in said dirt collection chamber  $\textcircled{17}$  and in which said discharge flows are combined, and wherein at least one partition  $\textcircled{65}, \textcircled{66}$  is disposed between two of said passages.

25 4. An intake system according to claim 3, wherein said cyclones 11 are provided with discharge spirals  $\textcircled{42}$ , wherein one of said discharge flows is withdrawn from one of said cyclones via a pertaining one of said discharge spirals, and wherein a cross section and length of said passages 59-64 are such

that approximately the same underpressure exists in said discharge spirals 42 of all of said cyclones 11.

5. An intake system according to claim 4, wherein said discharge spirals 42 of said cyclones 11 are monolithically formed with said dirt collector 16.

5 6. An intake system according to claim 2, wherein said dirt collection chamber 17 is fluidically connected with said peripheral flows 10 that are flowing from said cyclones 11.

10 7. An intake system according to claim 2, wherein at least one of said cyclones 11 has a main body 12 and an immersion tube 14, wherein said immersion tube is formed on an end 28 of said main body 12 that faces away from an intake element 13 and wherein at least one of said core flows 9 flows out of said at least one cyclone 11 via said immersion tube 14.

15 8. An intake system according to claim 7, wherein all of said cyclones 11 are provided with immersion tubes 14, which are monolithically formed with said dirt collector 16.

9. An intake system according to claim 2, wherein said dirt collection chamber 17 extends essentially perpendicular to longitudinal axes 20 of said cyclones 11.

20 10. An intake system according to claim 1, wherein each of said cyclones 11 is provided with a main body 12 on which is disposed an intake element 13.

11. An intake system according to claim 10, wherein said intake elements 13 are embodied as separate components, and are provided with an inlet funnel 58.

25 12. An intake system according to claim 10, wherein said intake elements 13 for all of said cyclones 11 have an identical design.

13. An intake system according to claim 10, wherein said air filter 3 is disposed in an air filter housing 19, wherein said main bodies 12 of said cyclones 11 form a common component with a first housing part 18 of said air filter housing 19, and wherein said first housing part 18 includes said dirt chamber 5 of said air filter 3.

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14. An intake system according to claim 2, which includes a fan 22, wherein said suction tube 21 fluidically connects said dirt collection chamber 17 with a bladed, rear face 24 of said fan 22 that faces said motor 8, wherein a cross-section of said suction tube 21 is preferably enlarged in a direction toward said fan 22, and wherein said suction tube opens out at said fan 22, approximately in a region of an axis of rotation 33 thereof, such that in a normal operating position of the implement, said suction tube 21 approximately coincides with a direction 25 of gravitational force.

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15. An intake system according to claim 2, wherein in a normal operating position of the implement, said dirt collection chamber 17, when viewed in a direction 25 of gravitational force, is disposed above said air filter 3.

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16. An intake system according to claim 2, wherein said dirt collector 16 is disposed on a housing part of an air filter housing 19.

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17. An intake system according to claim 1, wherein said dirt chamber 5 of said air filter 3 is closed off relative to the environment via an air filter cover 15 that at least partially spans said cyclones 11.

18. An intake system according to claim 1, wherein said cyclones 11 are tangential cyclones.

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19. An intake system according to claim 1, wherein each of said cyclones 11 has a main body 12 having an approximately cylindrical, and in particular slightly conical, configuration, and wherein longitudinal axes 20 of said

cyclones 11 extend parallel to one another and form a common plane.

20. An intake system according to claim 10, wherein relative to a direction 25 of gravitational force, said intake elements 13 draw in combustion air from above said carburetor 7 of said motor 8.

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